



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,521	10/06/2003	Jay Yu	VIAP0086USA	2520
27765	7590	03/29/2004	EXAMINER	
NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE) P.O. BOX 506 MERRIFIELD, VA 22116			NADAV, ORI	
			ART UNIT	PAPER NUMBER
			2811	
DATE MAILED: 03/29/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/605,521	YU ET AL.	
	Examiner	Art Unit	
	ori nadav	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

The oath/declaration filed on 10/06/2003 is acceptable.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a plurality of insulating layers, as recited in claim 3, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings are objected to because trace 24 in figure 3 is not depicted as a thick line, and thus does not clearly illustrate that P4 is connected to P5.

Figure 3 does not depict a connection between first wiring 16 and P7 and between second wiring 18 and P8.

Figure 4 is not a clear sectional drawing along a cross-section 4-4 of the inductor 14 shown in figure 3, because traces 22 and 24 and vias 30 and 32 are all connected to each other, and because a perpendicular cut along cross-section 4-4 would not depict the entire length of trace 22, as shown in figure 4.

Figures 5-8 depict traces 38 and 39 formed on wirings 16 and 18, being located on the same plane and connected to each other. Traces 38 and 39 can not be located on the same plane, because then wirings 16 and 18 are located on the same plane, and the disclosure recites wirings 16 and 18 being formed parallel to each other.

Art Unit: 2811

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

1. If applicant is aware of any relevant prior art, he/she requested to cite it on form PTO-1449 in accordance with the guidelines set forth in M.P.E.P. 609.

Specification

The disclosure is objected to because of the following informalities: Paragraph recites recite numerous grammatically incorrect terms such as "athe" and "andspiral".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2811

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claimed limitations of first and second conductive traces formed on the first wiring and second wiring Layers, as recited in claim 1, are unclear as to how first and second conductive traces can be formed on the first wiring and second wiring Layers without short circuiting the device.

The claimed limitation of conductive traces being formed alternately, is unclear as to how the conductive traces are formed with respect to the term "alternately".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Liou (6,037,649).

Liou teaches in figure 2A and related text a printed circuit inductor comprising:

a first wiring Ayer M2;

a second wiring Ayer M1 formed under and parallel to the first wiring Ayer;

a first conductive trace formed on the first wiring Ayer;

Art Unit: 2811

a second conductive trace formed on the second wiring Ayer;

a third conductive trace formed on the first wiring Ayer and parallel to the first conductive trace;

a fourth conductive trace formed on the second wiring Ayer and parallel to the second conductive trace;

a first via plug 24 connected to a first end of the first conductive trace and a first end of the second conductive trace;

a second via plug connected to a second end of the second conductive trace and a first end of the third conductive trace; and

a third via plug connected to a second end of the third conductive trace and a first end of the fourth conductive trace.

Regarding claim 2, Liou teaches in figure 2A and related text the first via plug is perpendicular to the first conductive trace, the second via plug is perpendicular to the second conductive trace, and the third via plug is perpendicular to the third conductive trace.

Regarding claim 3, Liou teaches in figure 2A and related text a plurality of conductive Layers, wherein each conductive Ayer comprises

a plurality of conductive traces and the conductive traces are formed alternately;

a plurality of insulating Layers 21, 23, 26 for isolating the conductive Layers from each other; and

Art Unit: 2811

a plurality of via plugs for connecting the conductive traces on different conductive Layers.

Regarding claims 4-6, Liou teaches in figure 2A and related text a plurality of conductive Layers is formed having two Layers, wherein the plurality of via plugs is perpendicular to the plurality of conductive Layers, and wherein the magnetic field generated by the inductor is in parallel with the conductive Layers.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference B is cited as being related to two level inductors.

Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(571) 272-**

Art Unit: 2811

1660. The Examiner is in the Office generally between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

A handwritten signature in black ink, appearing to read 'Ori Nadav', with a stylized flourish at the end.

O.N.
3/22/04

ORI NADAV
PATENT EXAMINER
TECHNOLOGY CENTER 2800